2.0 Meteorological Data

Each site was equipped with meteorological sensors that recorded data at 5 or 15-minute intervals at a height of 4 meters at the ADS Monitoring Site and seven meters for the Off-Axis Site. Data were collected for wind speed, wind direction, wind direction standard deviation, temperature, barometric pressure and relative humidity. Wind speed and direction varied significantly at the two sites due to micrometeorological differences, therefore in the event that one sensor malfunctioned, data from the other site was not substituted in the meteorological data analysis.

Meteorological data collected for this study served two purposes. First, the temperature and barometric pressure data was used to calculate correction factors for TSP flow measurements to correct the sample volumes to a standard temperature and pressure. Second, the wind speed and wind direction data were used to construct wind roses for each 24-hour sample period to causally relate sources in the event of high TSP or ADS readings. For convenience, the daily wind roses for the ADS sampling period are included in Appendix B. The wind roses for the TSP sample days are presented in Appendix C. Section 5 also displays the wind roses for days in which the TSP was above the 24 hour NCAAQS of 150 ug/m^3.

The wind roses describe the direction *from* which the wind was blowing, and present the wind speeds from those directions as rays of varying lengths and color representing the percentage of time the wind originated from that direction and the range of speeds observed. To illustrate how to interpret a wind rose, Figure 2. is used as an example. In this figure, the value of 0% in the center represents the percentage of the data below the lowest wind speed (see the key at bottom of the graph), in this case one mile per hour. The three rays in the figure show the direction from which the wind was blowing during the 24-hour period. In this case, the wind was almost exclusively from the southwest, with the wind speed between 1 and 15 miles per hour. The wind rose also shows that the winds were from the southwest approximately 62% of the time, from the west-southwest approximately 33% of the time, and from the south-southwest approximately 5% of the time. Because interest is in a specific site location, and its proximity to the galvanizing facility, light and variable winds were included in all datasets**.** Each wind rose consists of data for the 24-hour sample day. The wind rose does not give information about the temporal wind direction variations, and only indicates the percentage of time during the sampling period that the winds originated from a particular direction.